

Physics

1. Area under velocity time graph represent _____?

- A. force
- B. displacement**
- C. distance
- D. acceleration

2. Instantaneous and average velocities become equal when body _____?

- A. has zero acceleration**
- B. has uniform acceleration
- C. has variable acceleration
- D. moves in a circle

3. Inertia of an object is quantitative measure of its _____?

- A. volume
- B. density
- C. mass**
- D. temperature

4. 1st law of motion gives the definition of _____?

- A. rest
- B. motion
- C. velocity
- D. force**

5. 3rd law of motion explains _____?

- A. effect of force
- B. existence of a force
- C. existence of two forces

D. existence of pair of forces in nature

6. The dimension of force is _____?

- A. MLT^{-2}**
- B. ML^2T^{-2}
- C. ML^2T^2
- D. $ML^{-2}T^{-2}$

7. Which of the following pair has same direction always ?

- A. force, displacement
- B. force, velocity
- C. force, acceleration**
- D. force, momentum

8. The collision between two bodies be elastic if bodies are _____?

- A. solid and soft
- B. soft and elastic
- C. solid and hard**
- D. hard and elastic

9. When car takes turn around a curve road, the passengers feel a force acting on them in a direction away from the center of the curve.

It is due to _____?

- A. Centripetal force
- B. Gravitational force
- C. Their inertia
- D. Centrifugal force**

10. What is the shape of velocity, time graph for constant acceleration ?

- A. straight inclined line.**
- B. parabola

- C. inclined curve
D. declined curve

11. Which shows the correct relation between time of flight T and maximum height H ?

- A. $H = gT^2/8$
B. $H = 8T^2/g$
C. $H = 8g/T^2$
D. $H = gT^2$

12. Taking off rocket can be explained by _____?

- A. 1st law of motion
B. 2nd law of motion
C. Law of conservation of momentum
D. law of conservation of energy

13. What is the angle of projection for which the range and maximum height become equal ?

- A. $\tan^{-1} \frac{1}{4}$
B. $\tan^{-1} 4$
C. $\tan^{-1} \frac{1}{2}$
D. $\tan^{-1} 2$

14. Distance covered by a freely falling body in 2 seconds will be _____?

- A. 4.9 m
B. 19.6 m
C. 39.2 m
D. 44.1 m

15. Flight of a rocket in the space is an example of _____?

- A. second law of motion
B. third law of motion

- C. first law of motion
D. law of gravitation

16. At which angle the range of the projectile is maximum _____?

- A. 45
B. 60
C. 30
D. none

17. Time rate of change of momentum is equal to _____?

- A. force
B. impulse
C. velocity
D. both A and C

18. Why Ballistic missile fails in some circumstances of precision ?

- A. due to their shape
B. due to air resistance
C. due to angle of projection
D. all of these

19. A body is moving with uniform velocity. Its _____?

- A. speed changes
B. acceleration changes
C. direction of motion changes
D. displacement from origin changes

20. When velocity time graph is a straight line parallel to time axis then _____?

- A. acceleration is const
B. acceleration is variable

C. acceleration is zero

D. velocity is zero

21. Slope of velocity time graph is_____?

A. acceleration

B. distance

C. force

D. momentum

22. Which law of motion is also called law of inertia ?

A. 1st law

B. 2nd law

C. 3rd law

D. all 1st, 2nd and 3rd laws

23. Newtons laws do not hold good for particles_____?

A. at rest

B. moving slowly

C. move with high velocity

D. move with velocity comparable to velocity of light

24. 2nd law of motion gives the definition of_____?

A. force

B. acceleration

C. velocity

D. both force and acceleration

25. Momentum depends upon_____?

A. force acts on the body

B. mass of the body

C. velocity of the body

D. both mass and velocity of the body

26. When a body moves in a straight line then its displacement coincides with_____?

A. distance

B. force

C. acceleration is zero

D. both A and B

27. Motorcycle safety helmet extends the time of collision hence decreasing the_____?

A. chance of collision

B. force acting

C. velocity

D. impulse

28. During long jump, athlete runs before taking the jump. By doing so he_____?

A. provide him a larger inertia

B. decreases his inertia

C. decreases his momentum

D. increases his momentum

29. A body is falling freely under gravity. How much distance it falls during an interval of time between 1st and 2nd seconds of its motion, taking $g=10$?

A. 14 m

B. 20 m

C. 5 m

D. 25 m

30. The SI unit of Heat is_____?

A. Watt

B. Volt

C. Joule

D. Newton

31. Two automobiles are 150 kilometers apart and traveling toward each other. One automobile is moving at 60km/h and the other is moving at 40km/h mph. In how many hours will they meet?

A. 2.5

B. 2.0

C. 1.75

D. 1.5

E. 1.25

32. The branch of science which deals with the properties of matter and energy is called_____?

A. Biology

B. Geography

C. Physics

D. Chemistry

33. Physics is one of the branches of_____?

A. Physical science

B. Biological sciences

C. Social science

D. Life sciences branch

34. Which branch of science plays an important role in engineering?

A. Biology

B. Chemistry

C. Physics

D. All of these

35. The most fundamental of all sciences which provides basic principles and fundamental laws to other branches of science is_____?

A. biology

B. physics

C. information technology

D. chemistry

36. The Branch of Physics deals with highly energetic ions is called_____?

A. Elementary articles

B. Article physics

C. Ionic physics

D. Plasma physics

37. The_____branch of Physics deals with nuclear particles such as neutrons, protons and nuclear?

A. Solid State Physics

B. Plasma Physics

C. structure is called

D. Nuclear Physics

E. Particle Physics

38. The branch of Physics which deals with properties of gravitational?

A. Field theory

B. Acoustics

C. Hydro dynamic

D. Optics

39. The branch of physics which deals with the living things is called_____?

A. biological sciences

B. physical sciences

C. cell systems

D. elementary physics

40. The physics of moving charge particles is known as_____?

A. Plasma physics

B. Electro-static's

C. Electro-magnetic

D. Electro-dynamics

41. Study of living science relates with_____?

A. Physical science

B. Biological science

C. Just living science

D. Organ science

42. The first book of Physics was written by_____?

A. Kelvin

B. Newton

C. Aristotle

D. Faraday

43. Which one of the following is mass less?

A. Proton

B. Electron

C. Neutron

D. Photon

44. Name the branch of science which deals with the study of sound and sound waves?

A. Aeronautics

B. Acoustics

C. Aerostatics

D. Aetiology

45. The formula of inter-conversion of centigrade and Fahrenheit scale is_____?

A. $c-32/9$

B. $f-32/9 = c/5$

C. $f-32/9=c/9$

D. none

46. The coefficient of linear expansion is equal to_____?

A. $\Delta L = \alpha L \Delta T$

B. $\Delta L/L \Delta T$

C. $L \Delta T/\Delta L$

D. $\alpha L \Delta T - \Delta L$

47. The unit of coefficient of linear expansion or volume expansion is_____?

A. K

B. K-1

C. K -2

D. none

48. linear expansion occurs in_____?

A. Solid

B. liquid

C. both

D. none

49. When body is in motion, _____ always changes?

A. its velocity

B. its acceleration

C. its position vector

D. its momentum

50. A man is in a car is moving with velocity of 36km/hr. His

speed with respect to the car is _____?

- A. 10m/s
- B. 36m/s
- C. zero
- D. infinite

51. When two bodies move toward each other with constant speeds the distance between them decreases at the rate of 6m / sec. If they move in the same direction the distance between them increases at the rate of 4m/sec. Then their speeds are _____?

- A. 5m/s, 1m/s
- B. 3m/s, 3m/s
- C. 6m/s, 1m/s
- D. 4m/s, 2m/s

52. The distance covered by a body in time t starting from rest is _____?

- A. $at^2/2$
- B. Vt
- C. $a^2t/2$
- D. at^2

53. The trajectory (or path) of a projectile is _____?

- A. straight line
- B. parabola
- C. hyperbola
- D. circle

54. The force beared by a wall on which water strikes normally at a speed of 10m/sec and at a

discharge of $0.0001\text{m}^3/\text{sec}$ is _____?

- A. 1 N
- B. 10 N
- C. 100 N
- D. none

55. The range of the projectile at 30 deg and 60 deg are _____?

- A. equal to 45 deg
- B. equal to 90 deg
- C. equal to each other
- D. none of the above

56. Waves transmit _____ from one place to another?

- A. energy
- B. mass
- C. both
- D. none

57. When collision between the bodies in a system is inelastic in nature then for system _____?

- A. momentum changes but K.E remain conserve
- B. K.E changes but momentum remain conserve
- C. both momentum and K.E changes
- D. both momentum and K.E remain conserve

58. The acceleration in the rocket at any instant is proportional to the n th power of the velocity of

the expelled gases. Where the value of n must be ?

- A. -1
- B. 1
- C. 2
- D. -2

59. Which of the following is not an example of projectile motion ?

- A. a gas filled balloon
- B. bullet fired from gun
- C. a football kicked
- D. a base ball shot

60. The thrust on the rocket in the absence of gravitational force of attraction is _____?

- A. Constant
- B. not constant
- C. constant if the rate of ejected gases is constant
- D. constant for short range rocket.

61. The velocity of sound in air would become double than its velocity at 0°C at temperature ?

- A. 313°C
- B. 586°C
- C. 819°C
- D. 1172°C

62. Ultrasonic have _____?

- A. frequency in the audible range
- B. frequency is greater than 20 kHz
- C. frequency lower than 20 Hz
- D. all of above

63. The number of beats produced per second is equal to _____?

- A. the sum of the frequencies of two tuning forks
- B. the difference of the frequencies of two tuning forks
- C. the ratio of the frequencies of two tuning forks
- D. the frequency of either of the two tuning forks

64. Silence zone takes place due to _____?

- A. constructive interference
- B. destructive interference
- C. beats
- D. resonance

65. The distance between any two consecutive crests or troughs is called _____?

- A. frequency
- B. period
- C. Wave length
- D. phase difference

66. In vibrating cord the points where the amplitude is maximum, are called _____?

- A. antinodes
- B. nodes
- C. troughs
- D. crests

67. A stationary wave is set up in the air column of a closed pipe. At the closes end of the pipe _____?

- A. always an node in formed
 B. always an antinode is formed
 C. neither node nor antinode is formed
 D. sometimes a node and sometimes an antinode is formed
68. According to Newton sound travel in air under the conditions of _____?
- A. adiabatic
 B. isothermal
 C. isobaric
 D. isochoric
69. Velocity of sound in vacuum is _____?
- A. 332 ms⁻¹
 B. 320 ms⁻¹
 C. Zero
 D. 224 ms⁻¹
70. The velocity of sound is greatest in _____?
- A. Water
 B. air
 C. copper
 D. ammonia
71. The speed of stationary waves in a stretched string are independent of _____?
- A. Number of loops
 B. Tension in the string
 C. Point where string is plucked
 D. both A and C
72. Which phenomena can be applied to estimate the velocity of

star with respect to earth _____?

- A. Dopplers effect
 B. Interference of waves
 C. Beats phenomena
 D. All of these

73. The waves that require a material medium for their propagation are called _____?

- A. matter waves
 B. electromagnetic waves
 C. carrier waves
 D. mechanical waves

74. When two identical traveling waves are superimposed, the velocity of the resultant wave _____?

- A. decreases
 B. increases
 C. remains unchanged
 D. becomes zero

75. If stretching force T of wire increases, then its frequency _____?

- A. decreases
 B. increases
 C. remains the same
 D. any of above

76. It is possible to distinguish between transverse and longitudinal waves form the property of _____?

- A. refraction
 B. polarization

- C. interference
D. diffraction

77. When the source of sound moves away from a stationary listener then _____ occurs?

- A. an apparent increase in frequency
B. an apparent decrease in frequency
C. an apparent decrease in wavelength
D. no apparent change in frequency

78. Which one is the correct relation for fundamental frequency of open and closed pipe ?

- A. $f_{open} = 2 f_{closed}$**
B. $f_{closed} = 2 f_{open}$
C. $f_{open} = f_{closed}$
D. $f_{open} = 1 / f_{closed}$

79. Newton estimated the speed of sound _____?

- A. 281m/sec**
B. 333m/sec
C. 340m/sec
D. all of the above

80. The speed of sound in hydrogen is _____ time than that in oxygen?

- A. Two times
B. Three times
C. Four time
D. Six time

81. The periodic alternation of sound between maximum and minimum loudness are called _____?

- A. silence zone
B. interference
C. beats
D. resonance

82. Beats are the results of _____?

- A. diffraction of sound waves
B. constructive and destructive interference
C. polarization
D. destructive interference

83. Doppler effect applies to _____?

- A. sound wave only
B. light wave only
C. both sound and light waves
D. neither sound nor light wave

84. A simple pendulum has a bob of mass m and its frequency is f . If we replaced the bob with a heavier one say of $2m$ then that will be its new frequency ?

- A. $1/4f$
B. $1/2f$
C. frequency lower than 20 Hz
D. $2f$

85. In open organ pipe _____?

- A. only even harmonics are present
B. only odd harmonics are present
C. both even and odd harmonics

are present

D. selected harmonics are present

86. Sound waves do not travel in vacuum because _____?

A. they are transverse waves

B. they are stationary waves

C. they require material medium for propagation

D. they do not have enough energy

87. Increase in velocity of sound in the air for 1°C rise in temperature is _____?

A. 1.61 ms⁻¹

B. 61.0 ms⁻¹

C. 0.61 ms⁻¹

D. 2.00 ms⁻¹

88. On loading the prong of a tuning fork with wax its frequency _____?

A. increases

B. decreases

C. remains unchanged

D. may increase or decrease

89. The normal ear is the most sensitive in the frequency range _____?

A. 20000 to 30000 hertz

B. 10 to 20 hertz

C. 2000 to 4000 hertz

D. 6000 to 8000 hertz

90. The velocity of sound in air would become double than its velocity at 0°C at temperature _____?

A. 313°C

B. 586°C

C. 819°C

D. 1172°C

91. Laplace found that the alternate compressions and rarefactions produced in sound waves follows _____?

A. isothermal law

B. adiabatic law

C. isochoric law

D. all of the above

92. The beats frequency (sensible) for a human ear is _____?

A. 42Hz

B. 7 Hz

C. 256Hz

D. 262Hz

93. Fundamental frequency of stationary waves in open pipe is _____ times the frequency in closed pipe?

A. One

B. Two

C. Four time

D. None of these

94. The current through a metallic conductor is due to the motion of _____?

A. free electrons

B. protons

C. neutrons

D. still under controversy

95. A wire having very high value of conductance is said to be _____?

- A. very good conductor
- B. moderately good conductor
- C. an insulator
- D. no specific criterion available

96. Production of heat due to an electric current flowing through a conductor is given by _____?

- A. Joule effect
- B. Joule Thomsons effect
- C. Comptons effect
- D. Feed back effect

97. Three equal resistors connected in series with a source of e m f together dissipate 10 W of power each. What will be the power dissipated if the same resistors are connected in parallel across the same source of e m f?

- A. 40 W
- B. 90W
- C. 100W
- D. 120W

98. Thermocouples convert _____?

- A. heat energy into electrical energy
- B. heat energy into light energy
- C. heat energy into mechanical energy
- D. mechanical energy into heat energy

99. The dimension of elastic modulus is _____?

- A. ML-1T-2
- B. ML-2T-2
- C. MLT-2
- D. ML2T-2

100. Waves produced at the surface of water by a pencil executing vibrating motion if held vertically at a frequency of 50Hz are _____?

- A. Longitudinal
- B. Transverse
- C. Periodic
- D. both A and C

101. An immersion heater of 400 watts kept on for 5 hours will consume electrical power of _____?

- A. 2KWh
- B. 20KWh
- C. 6KWh
- D. 12KWh

102. Resistance of an ideal insulator is _____?

- A. infinite
- B. zero
- C. finite
- D. depends upon nature

103. Reciprocal of resistivity is called _____?

- A. resistance
- B. inductance

C. conductivity

D. flexibility

104. Circuit which gives continuously varying potential is called _____?

A. complex network

B. wheat stone bridge

C. potential divider

D. all of above

105. There are three bulbs of 60W 100W and 200W which bulb has thickest filament ?

A. 100W

B. 200W

C. 60W

D. all

106. Specific resistance of a wire _____?

A. will depend on its length

B. will depend on its radius

C. will depend on the type of material of the wire

D. will depend on none of the above

107. In the following figure, the terminal potential is _____?

A. zero

B. 2V

C. 12V

D. 36V

108. Which one of the following materials is useful for making bulb filaments ?

A. constantan

B. nichrome

C. copper

D. tungsten

109. If 1 ampere current flows through 2m long conductor the charge flow through it in 1 hour will be _____?

A. 3600C

B. 7200C

C. 1C

D. 2C

110. Why should a resistance be introduced in a circuit in series deliberately ?

A. to increase current

B. to decrease current

C. to control current

D. just to give a good look to circuit

111. All electrical appliances are connected in parallel to each other between the main line and neutral wire to get _____?

A. same current

B. same current and potential difference

C. different current but same potential difference

D. different current and potential differences

112. Resistance of a conductor depends upon _____?

A. nature of conductor

B. dimension of conductor

C. physical state of the conductor

D. all of above

113. A wire of uniform area of cross-section A length L and resistance R is cut into two parts. Resistivity of each part _____?

A. remains the same

B. is doubled

C. is halved

D. becomes zero

114. When same current passes for same time through a thick and thin wire _____?

A. more heat is produced in thick wire

B. more heat is produced in thin wire

C. no heat is produced in wire

D. less heat is produced in thick wire

115. One kilowatt hour is the amount of energy delivered during _____?

A. one second

B. one day

C. one minute

D. one hour

116. Resistance of a super conductor is _____?

A. finite

B. infinite

C. zero

D. changes with every conductor

117. Which one is the best material for making connecting wires ?

A. iron

B. tungsten

C. silver

D. copper

118. Internal resistance is the resistance offered by _____?

A. source of EMF

B. conductor

C. resistor

D. capacitor

119. Three bulbs are rating 40W 60W and 100W designed to work on 220V mains. Which bulb will burn most brightly if they are connected in series across 220 V mains ?

A. 40 W bulb

B. 60 W blub

C. 100 W blub

D. all will burn equally brightly

120. How much heat does a 40 W bulb generates in one hour ?

A. 144000J

B. 144J

C. 1.44J

D. 14J

121. Resistance of a wire on increasing its temperature will _____?

A. increase with rise in temperature

- B. decrease with rise in temperature
C. will remain same
D. depends upon altitude of experimentation

122. An electric iron is marked 20 volts 500W. The units consumed by it in using if for 24 hours will be _____?

- A. 12
B. 24
C. 5
D. 1100

123. In liquids and gases the current is due to the motion _____?

- A. negative charges
B. positive charges
C. both negative and positive charges
D. neutral particles

124. The graphical representation of Ohms law is _____?

- A. hyperbola
B. ellipse
C. parabola
D. straight line

125. The resistance of a conductor at absolute zero (OK) is _____?

- A. zero almost
B. infinite almost
C. no prediction at all
D. may increase or decrease

126. Electrical energy is measured in _____?

- A. watt
B. horse power
C. kilo watt
D. kilowatt hour

127. Electrical energy is converted to heat at the rate of _____?

- A. IRt
B. I^2R
C. I^2Rt
D. VIt

128. A fuse is placed in series with the circuit to protect against _____?

- A. high power
B. high voltage
C. high current
D. over heating

129. Which one of the following bulbs has the least resistance ?

- A. 100 watt
B. 200 watt
C. 300 watt
D. 60 watt

130. Optical active crystals rotates the _____?

- A. vibrating plane
B. polarization plane
C. diffraction plane
D. interference plane

131. In double slit experiment we observe _____?

- A. interference fringes only
- B. diffraction fringes only
- C. both interference and diffraction fringes**
- D. polarized fringes

132. Which one of the following properties of light does not change with the nature of the medium ?

- A. velocity
- B. wavelength
- C. amplitude
- D. frequency**

133. Photoelectric effect was given by _____?

- A. Hertz
- B. Fresnel
- C. Einstein**
- D. Plank

134. Longitudinal waves do not exhibit _____?

- A. reflection
- B. refraction
- C. diffraction
- D. polarization**

135. A point source of light placed in a homogeneous medium gives rise to _____?

- A. a cylindrical wave front
- B. an elliptical wave front
- C. a spherical wave front**
- D. a plane wave front

136. Which one of the following is nearly monochromatic light ?

- A. light from fluorescent tube
- B. light from neon lamp
- C. light from sodium lamp**
- D. light from simple lamp

137. When crest of one wave falls over the trough of the other wave this phenomenon is known as _____?

- A. polarization
- B. constructive interference
- C. destructive interference**
- D. diffraction

138. In Young double slit experiment, if white light is used _____?

- A. alternate dark and bright fringes will be seen
- B. coloured fringes will be seen**
- C. no interference fringes will be seen
- D. impossible to predict

139. In an interference pattern _____?

- A. bright fringes are wider than dark fringes
- B. dark fringes are wider than bright fringe
- C. both dark and bright fringes are of equal width**
- D. central fringes are brighter than the outer fringes

140. The blue colour of the sky is due to _____?

- A. diffraction
- B. reflection

C. polarization

D. scattering

141. When one mirror of a Michelson Interferometer is moved a distance of 0.5 mm we observe 2000 fringes. What will be wavelength of light used ?

A. 5000 nm

B. 5000A

C. 500m

D. 2000um

142. Wavelength of X-rays falling at glancing angle of 30° on a crystal with atomic spacing 2×10^{-10} for the first order diffraction is _____?

A. 4×10^{-10} m

B. 2×10^{-10} m

C. 0.02×10^{-10} m

D. 20×10^{-10} m

143. In a plane polarized light _____?

A. vibration in all direction

B. vibration in two mutually perpendicular directions

C. vibration take place in a direction perpendicular to the direction of propagation of light

D. no vibration at all

144. Which one of the following cannot be polarized ?

A. radio waves

B. ultraviolet rays

C. X-rays

D. sound waves

145. In monochromatic red light a blue book will probably appear to be _____?

A. black

B. purple

C. green

D. no scientific reasoning available

146. In double slit experiment if one of the two slit is covered then _____?

A. no interference fringes are observed

B. no diffraction fringes are observed

C. no fringes observed

D. interference pattern not disturbed

147. In the shadow of a ball the central portion appears bright that happens due to _____?

A. Interference

B. Diffraction

C. Polarization

D. Refraction

148. Crystals of a material can behave as _____?

A. Convex lens

B. Interferometer

C. Diffraction grating

D. Concave

149. Which is not optically active ?

A. sugar

B. tartaric acid

C. water

D. sodium chlorate

150. When light incident normally on thin film the path difference depends upon _____?

A. thickness of the film only

B. nature of the film only

C. angle of incidence only

D. all thickness nature and angle of incidence

151. The velocity of light was determined accurately by _____?

A. Newton

B. Michelson

C. Huygen

D. Young

152. appearance of colour in thin films is due to _____?

A. diffraction

B. dispersion

C. interference

D. polarization

153. A light ray traveling from rarer to denser medium suffers a phase change of _____?

A. 60°

B. 90°

C. 180°

D. 45°

154. Diffraction effect is _____?

A. more for a round edge

B. less for a round edge

C. more for a sharp edge

D. less for a sharp edge

155. A diffraction grating has 500 lines per mm. Its slit spacing or grating element will be equal to _____?

A. 500 mm

B. 5×10^{-3} mm

C. 2×10^{-5} mm

D. 2×10^{-3} mm

156. Light reaches the earth from sun in nearly _____?

A. 15 minutes

B. 10 minutes

C. 8 minutes

D. 8 minutes 30 seconds

157. According to Einstein light travels from one place to another in the form of _____?

A. waves

B. particles

C. photons

D. it was not his discovery

158. Central spot of Newtons rings _____?

A. bright

B. dark for large wavelength

C. dark

D. bright for large wavelength

159. The locus of all points in a medium having the same phase of vibration is called _____?

A. crest

B. trough

C. wavelength

D. wave front

160. Two sources of light are coherent if they emit rays of _____?

A. same wavelength

B. same amplitude of vibration

C. same wave length with constant phase difference

D. same amplitude and wavelength

161. Which experiment shows that wavelength of light is smaller than that of sound _____?

A. Diffraction

B. Polarization

C. Interference

D. Reflection

162. When a force is parallel to the direction of motion of the body, then work done on the body is _____?

A. zero

B. minimum

C. infinity

D. maximum

163. If a body a mass of 2 kg is raised vertically through 2m, then the work done will be _____?

A. 38.2 J

B. 392.1 J

C. 39.2 J

D. 3.92 J

164. The average power and instantaneous power become equal if work is done at _____?

A. any rate

B. at variable rate

C. at uniform rate

D. at high rate

165. Proton electron neutron and a particles have same momentum. Which of them have highest K.E ?

A. Proton

B. electron

C. neutron

D. a-particle

166. Work done by variable force is determine by dividing _____?

A. force into small interval

B. displacement into small interval

C. both force and displacement into small intervals

D. force into small and displacement into large intervals

167. Light on passing through a Polaroid is _____?

A. plane polarized

B. un-polarized

C. circularly polarized

D. elliptically polarized

168. Diffraction fringes are _____?

A. equally spaced

B. distance between them

increases

C. distance between then decreases

D. they are adjacent with no space in between

169. A thing that emits its own light is _____?

A. luminous

B. non-luminous

C. incandescent

D. bright

170. Gives the definition of metre in terms of wavelength of red cadmium light _____?

A. Newton

B. Einstein

C. Michelson

D. Galileo

171. The consumption of energy by a 60 watt bulb in 2 sec is _____?

A. 120 J

B. 60 J

C. 30 J

D. 0.02 J

172. The escape velocity form the earth surface in km S-1 is _____?

A. 4.2 km S-1

B. 7.5 km S-1

C. 9.5 km S-1

D. 1.1 km S-1

173. If moon radius is 1600 km and g on its surface is 1.6 ms-2

then the escape velocity on the moon is _____?

A. 1600 ms-1

B. 50.6 ms-1

C. 71.6 ms-1

D. 2263ms-1

174. When arrow is released form its bow, its energy is transformed from _____?

A. heat energy to K.E

B. elastic P.E to K.E

C. elemical energy to elastic P.E

D. K.E to elastic P.E.

175. The work done by friction is _____?

A. positive

B. negative

C. zero

D. none of these

176. The escape velocity of a body in gravitational field of earth is independent of _____?

A. its mass

B. the angle at which it is thrown

C. both its mass and the angle at which it is thrown

D. gravitational field of earth

177. The source of geothermal energy is _____?

A. decay of radioactive element in the earth

B. compression of material in the earth

C. residual lost of the earth

D. all as said in A - B and C

178. Work done by the force of friction is _____?

- A. always positive
- B. always negative**
- C. positive only for small frictional force
- D. positive only for large frictional force

179. If velocity is doubled then _____?

- A. momentum increases 4 times and K.E increases 2 times
- B. momentum and K.E. remain same
- C. momentum increases 2 times and K.E increases constant
- D. momentum increases 2 times and K.E increases 4 time**

180. Which of the following is not conservative force _____?

- A. friction**
- B. electric
- C. gravitational
- D. magnetic

181. On a clear day at noon the solar energy reaching the earth is _____?

- A. 1.44kw/m²
- B. 1.4kw/m²
- C. 1 kw/m²**
- D. none

182. Work done will be maximum if the angle between the force F and displacement d is _____?

- A. 45°
- B. 90°
- C. 180°
- D. 0°

183. A field in which the work done in a moving a body along closed path is zero is called _____?

- A. electric field
- B. conservative field**
- C. electromagnetic field
- D. gravitational field

184. Which of the following types of force can do no work on the particle on which it acts ?

- A. frictional force
- B. gravitational force
- C. elastic force
- D. centripetal force**

185. An elevator weighing 3.5 x 10⁶ N is raised to a height of 1000 m in the absence of friction, the work done is _____?

- A. 3.5 x 10³ J
- B. 3.5 x 10⁴ J
- C. 3.5 x 10⁶ J
- D. 3.5 x 10⁹ J**

186. The relation between horse power and watt is _____?

- A. 1 hp = 546 watts
- B. 1 hp = 746 watts**
- C. 1 hp = 1000 watts
- D. 1 hp = 946 watts

187. Slope of work time graph is equal to _____?

- A. displacement
- B. acceleration
- C. power
- D. energy

188. The dimension of power is _____?

- A. $[ML^2T^{-3}]$
- B. $[ML^2T^{-2}]$
- C. $[ML^2T^3]$
- D. none of these

189. The dot product of force and velocity is _____?

- A. power
- B. work
- C. impulse
- D. torque

190. The source of tidal energy is _____?

- A. sun
- B. earth
- C. both A and B
- D. moon

191. One mega watt hour is equal to _____?

- A. 36×10^6 J
- B. 36×10^{12} J
- C. 36×10^9 J
- D. 36×10^8 J

192. Work has the dimension as that of same as that of _____?

- A. torque
- B. angular momentum

- C. linear momentum
- D. power

193. The relation between the escape velocity V_{esc} and orbital speed V_o is given by _____?

- A. $V_{esc} = 1/2 V_o$
- B. $V_{esc} = -2 V_o$
- C. $V_{esc} = V_o$
- D. $V_{esc} = 2 V_o$

194. When two protons are brought together _____?

- A. Kinetic energy increases
- B. P.E. between them increases
- C. P.E. between them decreases
- D. P.E. between them does not change

195. A man lifts vertically a weight of 40kg through 1m in 10s; while a child lifts vertically a weight of 10kg through a distance of 1m in 1s. What will be correct inference ?

- A. man does more work than child
- B. child does more work than man
- C. both do the same amount of work

196. Work done on the body equals to the _____?

- A. change in its K.E always
- B. change in its P.E always
- C. change in its K.E and change in its P.E
- D. neither change in K.E and nor change in its P.E

197. The tides raise the water in the sea roughly in a day_____?

- A. once
- B. twice**
- C. four times
- D. eight times

198. The highest value of escape velocity in solar system is planet_____?

- A. Earth
- B. Neptune
- C. Jupiter**
- D. Moon

199. Gravitational P.E of a body has_____?

- A. no formula
- B. a formula mgh only
- C. a formula
- D. no general formula**

200. When the speed of a moving body is doubled then_____?

- A. its K.E is doubled
- B. its acceleration is doubled
- C. its P.E is doubled
- D. its momentum is doubled**